

## THE CLAIMS

We claim:

1. A vent pin for a golf ball injection mold comprising a plurality of pin sections that  
5 join to define the vent pin, said pin sections having faces that join to define at least one  
primary vent along the inside of the tip of the vent pin.
2. The vent pin of claim 1, wherein the faces of the pin sections join to define a  
plurality of apertures on the face of the tip of the vent pin.  
10
3. The vent pin of claim 1, wherein the pin sections further define a secondary vent in  
fluid connection with the primary vent.
4. The vent pin of claim 3, wherein the secondary vent is defined along the inside of  
15 the vent pin.
5. The vent pin of claim 3, wherein the secondary vent is defined along the outer  
surface of the vent pin.
- 20 6. The vent pin of claim 1, wherein the tip of the pin is shaped to form a plurality of  
dimples in the cover of a golf ball.
7. The vent pin of claim 1, wherein the primary vent is formed by a channel cutout in a  
first pin section joined with a second pin section having an essentially planar face.  
25
8. The vent pin of claim 1 further comprising a second primary vent and a first  
secondary vent.
9. The vent pin of claim 8, wherein the first and second primary vents are in fluid  
30 connection with the first secondary vent.
10. The vent pin of claim 9, wherein the secondary vent is defined along the outer  
surface of the vent pin.

35

11. The vent pin of claim 9, wherein the secondary vent is defined along the inside of the vent pin.
12. The split vent pin of claim 8 further comprising second secondary vent, wherein the first secondary vent is in fluid connection with the first primary vent and the second secondary vent in fluid connection with the second primary vent.
13. The split vent pin of claim 1, wherein the face of at least one pin section is roughened to allow air and trapped gasses to pass therethrough when the plurality of pin sections are joined.
14. An injection mold for producing golf balls, comprising:  
a first mold plate defining a first cavity having an inner surface terminating in a first parting line surface;  
a second mold plate defining a second cavity having an inner surface terminating in a second parting line surface such that the first and second mold plates define a substantially spherical cavity when joined along said parting lines;  
a vent pin disposed within the mold, wherein the vent pin comprises a first pin section with a first face and a second pin section with a second face such that when the first and second faces are joined they define a primary vent at the tip of the vent pin.
15. The injection mold of claim 14, wherein the primary vent comprises a plurality of apertures on the face of the tip of the vent pin.
16. The injection mold of claim 14, wherein the faces of the vent pin sections further define a secondary vent when the first and second faces are joined such that the primary vent is in fluid connected with the secondary vent.
17. The injection mold of claim 16, wherein the secondary vent is defined along the inside of the vent pin.
18. The injection mold of claim 16, wherein the first secondary vent is defined along the outer surface of the vent pin.

19. The injection mold of claim 14, wherein the tip of the pin is shaped to form a plurality of dimples in the cover of a golf ball.
20. The injection mold of claim 14, wherein the face of the second pin section is essentially a planar surface.
21. The injection mold of claim 14 further comprising a second primary vent.
22. The injection mold of claim 21 further comprising a second secondary vent, wherein the first and second primary vents are in fluid connection with the secondary vent.
23. The injection mold of claim 22, wherein the secondary vent is defined along the outer surface of the split vent pin.
24. The injection mold of claim 22, wherein the secondary vent is defined along the inside of the split vent pin.
25. The injection mold of claim 21 further comprising a first secondary vent in fluid connection with the first primary vent and a second secondary vent in fluid connection with the second primary vent.
26. The injection mold of claim 14 further comprising a retractable pin disposed within the mold, wherein the retractable pin comprises a first retractable pin section with a first face and a second retractable pin section with a second face such that when the retractable pin faces are joined they define a primary vent at the tip of the retractable pin.
27. The split vent pin of claim 14, wherein the face of at least one pin section is roughened to allow air and trapped gasses to pass therethrough when the first and second pin sections are joined.
28. An injection mold for producing golf balls, comprising:  
a first mold plate defining a first cavity having an inner surface terminating in a first parting line surface;

a second mold plate defining a second cavity having an inner surface terminating in a second parting line surface such that the first and second mold plates define a substantially spherical cavity when joined along said parting lines;

a vent pin; and

5 a retractable pin disposed within the mold, wherein the retractable pin comprises a first retractable pin section with a first face and a second retractable pin section with a second face such that when the faces are joined they define a primary vent at the tip of the retractable pin.

10 29. A method of forming a golf ball layer comprising the following steps:  
securely positioning a golf ball core into an injection mold;  
injecting layer material into the mold; and  
venting air and gasses from the mold through a split vent pin, wherein said split vent  
pin comprises a first pin section having a first face and a second pin section having a second  
15 face such that when the faces of the first and second pin sections are joined they define a  
primary vent along the inside of the tip of the split vent pin.

30. The method of forming a golf ball layer according to claim 29 further comprising the  
step of forcing a gas into the injection mold after the golf ball layer is formed to assist in  
20 ejecting the golf ball from the mold.

31. The method of forming a golf ball layer according to claim 30, wherein the gas  
forced into the injection mold to assist in ejecting the golf ball from the mold travels  
through the vent pin.

25 32. The method of forming a golf ball layer according to claim 29, wherein the core is  
securely positioned in the injection mold by a plurality of retractable pins, wherein at least  
one retractable pin comprises a first retractable pin section with a first face and a second  
retractable pin section with a second face such that when the faces are joined they define a  
30 primary vent at the tip of the retractable pin.

33. The method of forming a golf ball layer according to claim 30 further comprising the  
step striking the surface of the ball with at least one retractable pin to assist in ejecting the  
golf ball from the mold.

35

34. The method of forming a golf ball layer according to claim 33 further comprising the step of forcing air back into the injection mold through at least one retractable pin having a primary vent.
- 5 35. The split vent pin of claim 29, wherein the face of at least one pin section is roughened to allow air and trapped gasses to pass therethrough when the first and second pin sections are joined.
36. A golf ball injection mold comprising:
- 10 a first mold plate defining a first cavity having an inner surface terminating in a first parting line;
- a second mold plate defining a second cavity having an inner surface terminating in a second parting line surface, wherein said mold plates define a substantially spherical mold cavity when said parting lines are joined;
- 15 a vent pin having at least a portion of a plurality of dimples on the face of the pin and having a plurality of vents along the perimeter of the pin.
37. The golf ball injection mold of claim 36, wherein the vent pin is shaped to form four dimples on the golf ball.
- 20 38. The golf ball injection mold of claim 37, wherein the vent pin further comprises:
- a first pin section having a first face; and
- a second pin section having a second face such that when the faces of the pin sections are joined they define a vent along the inside of the tip of the vent pin.
- 25 39. The split vent pin of claim 38, wherein the face of at least one pin section is roughened to allow air and trapped gasses to pass therethrough when the first and second pin sections are joined.
- 30
- 35